

Appendix J
COMMENTS RECEIVED ON THE FIRST PUBLIC
DRAFT OF THE ST. LUCIE MINIMUM FLOWS AND
LEVELS DRAFT TECHNICAL DOCUMENT

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**ST LUCIE RIVER MFLs
RULE DEVELOPMENT WORKSHOPS
JUNE 8, 2001**

PUBLIC COMMENTS AND QUESTIONS

1. Why are we using the word "Oligohaline" in the document instead of Oligosaline? Oligosaline is easier to understand and reflects the intent of the protected zone of the river.
2. The areas of the river that have been targeted as "good" Oligohaline sites are all in St. Lucie County. What about areas of the river in Martin County?
3. The Upper East Coast Regional Water Supply Plan (2000), states that Agricultural water demand accounts for 84% of the overall water demand in the planning area and is expected to increase by approximately 23 percent through the planning horizon. No where can I find that this 84% of the fresh water in the Upper East Coast Area is factored into any planning. It looks to me that all other plans and projects, including the MFLs are dealing with the other 16%. It seems to be an almost fatal flaw in any planning to completely disregard 84% of the users of fresh water.
4. There is no serious discussion of the quality of fresh water. About all of the water in the Upper East Coast, probably the whole district is badly polluted by agriculture and development. The peer panel needs to give an in-depth review of the quality of water.

**LLOYD BRUMFIELD
11225 SW Meadowlark Circle
Stuart, Florida 34997-2730**

**561-286-3244 Phone/Fax
E Mail: lloyd4@yahoo.com**

June 11, 2001

**Peer Review Panel
Minimum Flows and Levels for the
St Lucie River & Estuary
C/O Joel VanArman
Water Supply and Development Dept.
South Florida Water Management District
PO Box 24680
West Palm Beach, FL 33416-4680**

**SUBJECT: Comments on Draft, May 22, 2001--Received at Stuart City Hall--SFWMD
Public Hearing June 8, 2001**

My comments take the form of general observations of the SFWMD's policies, procedures and practices of dealing with water supply and quality in the Upper East Coast--Martin, St. Lucie, and a portion of Okeechobee Counties.

I. The SFWMD "Upper East Coast Water Supply Plan--Planning Document-1990-2020--January 1998."

Page 1--Chapter 1-Introduction--"Agricultural water demand, which accounts for 84 percent of the overall water demand in the planning area, is expected to increase by approximately 23 percent through the planning horizon."

No where can I find that this 84% of the fresh water in the Upper East Coast Area is factored into any planning. It looks to me that all other plans and projects, including the St. Lucie Minimum Flows and Levels, are dealing with the other 16%.

It seems to be an almost fatal flaw in any planning to completely disregard 84% of the users of fresh water.

II. Quality of Water

In my dozens, probably hundreds, of meetings, workshops, Governing Board Meetings, etc. have I heard any serious discussion of the quality of the fresh water: at most a glancing remark and get on with it. About all of the water in the Upper East Coast, probably the whole district, is badly polluted mainly by agriculture and development.

The Peer Review Panel needs to give an in-depth review of the quality of water.

III. Back-pumping of polluted water into Lake Okeechobee by the SFWMD

In recent weeks, the SFWMD, twice, has back-pumped water polluted by nutrients and pesticides into Lake Okeechobee. I am aghast. It looks to me that the SFWMD should be setting the example for the rest of us.

IV. Wetlands

I am concerned that wetlands, the funnels of water life, are not getting more than a casual review by all entities in the Upper East Coast and probably the whole of the SFWMD.

I am requesting that the PEER REVIEW PANEL give great consideration to my concerns and any other point of view that has environmental sensitivities.

Sincerely,

A handwritten signature in dark ink, appearing to read "L. Brumfield", with a stylized flourish at the end.

Lloyd Brumfield

DRAFT

June 15, 2001

TO: Janet Llewellyn, Deputy Director,
Division of Water Resource Management

FROM: Dana C. Bryan, Chief
Bureau of Natural and Cultural Resources
Division of Recreation and Parks

SUBJECT: Draft Report for Minimum Flows and Levels for the St. Lucie River and Estuary

The Florida Department of Environmental Protection's Division of Recreation and Parks has reviewed the 21 May 2001 draft of the *Technical Documentation to Support Development of Minimum Flows for the St. Lucie River and Estuary* produced by the South Florida Water Management District (SFWMD). The Division is involved because of the effects of the MFLs on St. Lucie Inlet Preserve State Park (SLI) which is under our management. We offer the following general comments, followed by specific comments.

General Comments:

The Division is charged with providing recreational opportunities on the lands it manages. SLI attracts 16,614 visitors annually (1999-00) and has a total direct economic impact on the local community of \$564,608 annually. This visitation and economic impact depends on the continued preservation of the recreationally important natural resource attributes of the park, including the heavily dived offshore worm reef in the 3,888 acres of submerged park lands. Deterioration of the ecology and aesthetics of the preserve and reef are serious concerns that might affect tourists and the local community.

The Division is also charged with conserving the natural values in parks. SLI is one of only 15 preserves in the 155-unit Florida State Park system. The designation of state preserves is special to those lands where preservation of representative samples of Florida's natural conditions is given priority over recreational user considerations. Uses allowed are primarily passive and related to the aesthetic, educational, and scientific enjoyment of the conditions maintained in the preserve.

The Florida Environmental Reorganization Act of 1993 requires FDEP to develop and implement measures to "...protect the functions of entire ecological systems through enhanced coordination of public land acquisition, regulatory and planning programs". The acquisition of both SLI and the adjacent Seabranck State Preserve on the other side of the Indian River Lagoon provides a perfect example of this ecosystem protection in Florida State Parks. These two units

Janet Llewellyn
Page 2 of 2
June 15, 2001

provide a complete cross-section of the Atlantic Coastal Ridge from sand pine scrub to scrubby flatwoods, mesic flatwoods, baygall, and estuarine tidal swamp, then across the lagoon to a barrier island with sub-tropical maritime hammock, coastal beach, and an offshore Pleistocene reef.

The Division also is compelled by Florida Statute 258.037 to establish a policy "to acquire typical portions of the original domain of the state...of such character as to emblemize the state's natural values; conserve these natural values for all time...to enable the people of Florida and visitors to enjoy these values without depleting them..." The Division believes that it is imperative, if we are to adhere to our statutory charge, that the water necessary to sustain the habitat be maintained or where possible restored.

The Division feels that the MFLs in state parks should be established under the direction of Section 373.042 (1), F.S., which states that the water management districts "...shall also consider, and at their discretion may provide for, the protection of non-consumptive uses in the establishment of minimum flows and levels...." Those non-consumptive uses are especially important on public lands and most important on Florida State Parks because of their clear public function of recreation, appreciation of the natural environment, and environmental education.

Florida State Parks will not continue to survive in this state if we cannot depend on the water management districts to protect and restore our state park water resources. Given that the State of Florida has invested over \$1 billion to acquire these properties, it is in the public interest to protect and restore them.

Specific Comments:

We agree that the many species of fishes, invertebrates and wildlife, including commercially and recreationally important and listed species, depend on the oligohaline habitat that exists in the St. Lucie Estuary. While fresh water flows from both the North and South Forks of the St. Lucie River are necessary for the viability of the estuary, historical documentation shows the need for a balanced approach to the management of these flows. The estuary experiences harm both from a lack of freshwater (less than 21cfs in the North Fork and less than 7cfs in the South Fork) and from an overabundance of fresh water during discharges from Lake Okeechobee. The discharges from the lake are responsible for tons of sediment, nutrients, and other pollutant being introduced into the estuary and the offshore reef. The chemical composition and turbidity of these discharges need to be quantified and the discharges' harmful effects need to be addressed in order for us to protect the park's reef and near shore habitats.

We are unable to determine whether the proposed MFL regime is healthy for the preserve and offshore reef, but our collective goal should be to restore as nearly as possible the historic flows regime.

DCB/mh

cc: Fran Mainella, Director, Division of Recreation and Parks
Mike Bullock, Assistant Director, Division of Recreation and Parks
George Jones, District 5 Bureau Chief
Pete Scalco, OMC Manager, District 5
John Griner, Manager, St. Lucie Inlet Preserve State Park



Jeb Bush
Governor

Department of Environmental Protection

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

David B. Struhs
Secretary

June 27, 2001

Ms. Kathy LaMartina
South Florida Water Management District
P. O. Box 24680
West Palm Beach, Florida 33416-4680

Re: St. Lucie River and Estuary Minimum Flow

Dear Ms. La Martina:

The Department appreciates the opportunity to comment on the District's technical document describing the methodology used to develop a minimum flow and level (MFL) for the St. Lucie River and Estuary. The District has correctly pointed out that much of the harm occurring to the St. Lucie Estuary is a result of too much fresh water flowing into the river during certain times. However, the District also recognizes the need to establish a MFL while fresh water resources are still available in the area. The District's various water supply plans and related studies have indicated that the region's consumptive uses will increase substantially. Establishing a MFL now, before fresh water is diverted to other uses, will provide the District with a valuable decision tool when managing the water resources of the region.

We agree that maintaining a certain amount of oligohaline habitat within the estuary during low flow conditions is the best approach for establishing a MFL in the system. The technical analysis of the North Fork does a good job of relating flows, salinity, and extent of oligohaline habitat. Even though various assumptions were needed to conduct the North Fork analysis, it is clear how the District determined that a flow of 70 cfs was needed to maintain the oligohaline habitat at a certain reach within the river.

However, we are concerned that the District's current definition of significant harm for the estuary does not adequately correlate with maintaining the salinity at a concentration that will allow a desired amount of oligohaline habitat to persist. As we understand the document, the proposed MFL for the St. Lucie Estuary will be the point at which:

"freshwater flows to the estuary are less than the rate of evaporation for a period of two consecutive months during the dry season for two or more years in succession."

This does not represent an actual flow and it is difficult to understand how this will be established and implemented. It appears that the District only used flows generated by the Natural Systems Model to establish this level and could not correlate this flow with salinity and extent of oligohaline habitat. While it appears that the District is lacking a great deal of information to make these correlations, we believe the District could establish an initial MFL that represents a quantified amount of flow. The District's analysis has shown that a flow of 70 cfs is needed within the North Fork to protect the

"More Protection, Less Process"

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oligohaline habitat from significant harm and has estimated that the South Fork would need a flow of 27 cfs. Thus, it may be possible to simply establish two separate MFLs, one for the North and South forks respectively that will assure an adequate supply of fresh water for the estuary.

During the District's recent efforts related to the Caloosahatchee River and Estuary, the District initially used a definition for significant harm that was not an actual flow, but eventually revised their definition so it identified a specific salinity target that was associated with a specific flow during the dry season. We recommend that the District revise the St. Lucie MFL in a similar manner.

Additionally we are concerned with the relationship of this MFL to water quality within the system and the relationship between the findings in this report and those of the Indian River Lagoon Feasibility Study. The technical report describes the water quality problems associated with the system and indicates that this is a SWIM waterbody, which is scheduled for TMDL establishment, yet there is no correlation between the MFL selection and the expected impacts this would have on water quality. The District should clearly show that the MFL established would not worsen water quality problems in the river and estuary.

The technical document (page 2-27) indicates the Indian River Lagoon Feasibility Study (IRLFS) has identified target fresh water flows of 350 to 2,000 cfs. The low flow target established by the IRLFS is significantly different from the one described in the MFL technical document. The District should clearly explain the discrepancies between these two studies. Furthermore, it might be more appropriate for the MFL to be established closer to 350 cfs.

We appreciate the opportunity to work with the District on these important efforts. With a few modifications suggested above, we believe that an adequate MFL can be established for the St. Lucie system in spite of the lack of comprehensive data. As knowledge is obtained, the District can modify the MFL accordingly, but as the District correctly points out, it is important to establish the best MFL possible at this point before the pressures of consumptive uses cause harm to the system. If you have any additional questions, please contact Kathleen Greenwood at 488-0784.

Sincerely,



Kathleen P. Greenwood
Senior Management Analyst II
Office of Water Policy

JGL/kpg

cc:

Tom Swihart, DEP
Melissa Meeker, DEP
Pam McVety, DEP
Dana Bryan, DEP
Frank Metzler, DEP
John Outland, DEP
Cheryl McKee, DEP
Danny Riley, DEP
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Date: June 27, 2001

To: Kathy LaMartina e-mail klamart@sfwmd.gov 1-800-432-2047 x6325
Program Manager, District-wide MFL Program
South Florida Water Management District
3301 Gun Club Rd.
West Pam Beach, FL 33406

From: Mark D. Perry, Executive Director
Florida Oceanographic Society
890 NE Ocean Blvd.
Stuart, FL 34996

RE: "Technical Document to Support Development of Minimum Flows for the St. Lucie River and Estuary" SFWMD Water Supply Division, DRAFT May 21, 2001

The document seems to be an attempt to provide a technical justification for developing minimum flows and levels as required by Section 373 F.S.. As stated on page 1-4 "The overall purpose of Chapter 373 is to ensure the sustainability of water resources of the state (Section 373.016, F.S.)." Yet on page 1-1 it is stated that "Establishing minimum flows and levels alone will not be sufficient to maintain a sustainable resource or protect it from significant harm during the broad range of water conditions occurring in the managed system."

As the definition indicates, "**minimum flow**" is the "minimum flow limit at which further withdrawals would be significantly harmful to the water resources or ecology of the area" and "**minimum level**" is the level of groundwater in an aquifer and the level of surface water at which further withdrawals would be significantly harmful to the water resources of the area". This Section makes sense when applied to groundwater aquifers and lakes or streams that are used for water supply. Minimum flows and levels are set to control withdrawals that would degrade the water resource on supply side, but these terms are confusing when addressing a natural estuarine system such as the St. Lucie River Estuary.

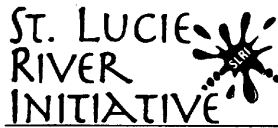
The application of Minimum Flows and Levels (MFL) also becomes especially difficult to apply to the St. Lucie River Estuary when addressing the issues of the "Levels of Harm" such as "Harm, Significant Harm and Serious Harm" and the concept of "Recovery and Prevention Strategy" as outlined on pages 1-5 thru 1-7. The St. Lucie Estuary watershed has already experienced "Significant or Serious Harm" from the implementation of major canals and water management systems that drain the lands for agriculture and have significantly lowered the natural water table. And how is the "Recovery and Prevention Strategy" coincide with the Upper East Coast Water Supply Plan that is looking to supply all future water needs through the Floridan Aquifer because we have seriously altered the surficial or Shallow Aquifer System?

In the Water Resources section starting on page 2-15, the 3rd paragraph seems accurate when stating, "The construction and operation of surface water management systems affect the quantity and distribution of recharge to the Shallow Aquifer System". It further states that "the

surface water management systems within the planning area function primarily as aquifer drains". Agricultural drainage and residential development have extensively modified the watershed of the St. Lucie Estuary resulting in a lowered groundwater table and negative quality, quantity and timing of water entering the Estuary.

Beginning in the Resource Protection Programs section under Indian River Lagoon Feasibility Study page 2-27 the conclusions begin to draw that "inflow targets of 350 to 2,000 cfs for the Estuary will provide the baseline assumptions for the Minimum Flow and Level technical criteria". Further on at the Summary and Conclusions of Chapter 3, page 3-6 it is stated "Determination of the lower limit of flows that constitute significant harm to this riverine system, will be linked to the maintenance of salinity levels". There seems to be a definite move here to somehow control and manipulate the inflows to the Estuary to maintain a "minimum" on the perceived "salinity envelope". Does this suggest that if the salinities in the Estuary get too high, the District will open up the gates and flow more polluted water through canals into the Estuary just to maintain a "salinity envelope" under the guise of a "minimum flow and level" criteria?

A big problem in this report is in the Conclusions and Recommendations starting on page 5-19 when the terms "Harm" and "Significant Harm" are redefined using a comparison of freshwater inflows to the Estuary with rates of evaporation over set periods of time. Why is this so much different than the original definitions in Chapter 373 FS? It is also concluded that 70 cfs may be an appropriate management target for the river and flows below 21 cfs occur when "significant harm" is occurring in the Estuary. These are very interesting numbers and I suppose they come right out of the models, but is this really a management tool for the Estuary? Are we going to further manipulate the watershed by releasing polluted water from canals into the Estuary to maintain a "salinity level or envelope"? What about working to restore the water tables in the watershed and getting at the source of the issues in drainage and regulation schedule releases from Lake Okeechobee? I am surprised they didn't use Chapter 373 to maintain "minimum flows and levels" in the canals for the 130 large agricultural consumption permits who pump water out for irrigation. The heavy use of the Floridan Aquifer by both agriculture and the projected heavy use for future potable water supplies may have profound effects on our groundwater resources, which in turn will impact our surface water use in canals and the St. Lucie River Estuary.



P.O. Box 2082 Stuart, FL 34995 561/287-8158 FAX 561/286-7188

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June 27, 2001

Kathy La Martina
Program Manager, MFL
South Florida Water Mgmt. District

RE: Minimum flows for the St. Lucie River and Estuary

Dear Kathy:

While we generally support the District's recommendations on low flows for the St. Lucie we do have some misgivings and some questions.

At present your discussion is reasonably flexible, (pp1-1, 1-2, Draft of May 21). "Setting a minimum flow is viewed as a starting point to define minimum water needs for sustain ability", p.1-1. Will that same spirit survive imminent rule development and eventual legal wording? In the next few years of experience will review and change be reasonably possible?

We have misgivings that the latest modeling may suggest too low a minimum for the long-term health of the river. Your creation of the latest natural systems model conflicts with a long-held belief - that in its heyday the river received, in dry times, a larger flow than it does today. With the new NSM the reverse is true, Fig. 5-5. We are still struggling to accept that.

We are concerned that the recommended minimum flow - 70 CFS - might lead to greater use-permitting. This could become critical when the CERP process is completed in our two counties in 2007 (?). Then the water in the river, and in the new storage system, will be cleaner, and more attractive.

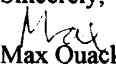
With the request that you consider most carefully our questions, concerns, and misgivings, we support your plan. You should move forward with it. For our part we will raise our level of cooperative watchfulness with you.

MISSION: To restore the St. Lucie River to health & productivity through private & public action.



I like your report. The draft of May 21st and the appendices are a well written account of high technical quality. It's going to join a small group of District reports that I will refer to over the years for insight and information.

Sincerely,


Max Quackenbos
For The river Initiative.

P.S. Thank you for accommodating my input at the last moment. To be blunt I forgot the date. M.

Cc: Kevin Henderson
Bud Jordan
Ed Weinberg
Patti Sime SFWMD local